AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application. Where claims have been amended and/or canceled, such amendments and/or cancellations are done without prejudice and/or waiver and/or disclaimer to the claimed and/or disclosed subject matter, and Applicants reserve the right to claim this subject matter and/or other disclosed subject matter in a continuing application or otherwise.

1. (currently amended) A method for increasing an error tolerance of an array of m storage units in which m is~~comprises~~ an integer, comprising:

storing k stripes across the array of m storage units in which k is~~comprises~~ an integer, each stripe comprising n + r elements in which n is the number of data elements in the stripe and r is the number of redundant elements in the stripe, m > n + r, jm = k(n + r), and j is an integer~~having a plurality of elements~~, each stripe forming a correcting code, the correcting code being~~comprising~~ one of an erasure correcting code having~~comprising~~ a minimum Hamming distance d and an error correcting code having~~comprising~~ a minimum Hamming distance d, and each respective element of a stripe being stored on a different storage unit;

selecting an element in a donor stripe when a difference between a minimum distance of the donor stripe and a minimum distance of a recipient stripe of the k stripes is greater or equal to 2 and when an element of the recipient stripe has been lost, the donor stripe and the recipient stripe being from the k stripes, the selected element being stored on a storage unit comprising no elements of the recipient stripe; and

increasing the minimum distance of the recipient stripe by rebuilding the lost element of the recipient stripe on the selected element of the donor stripe so that the recipient stripe can tolerate a loss of another element without loss of data.

2. (currently amended) The method according to claim 1, wherein the minimum Hamming distance of the recipient stripe is $d > 2$~~d ≥ 2~~ before selecting the element in the donor stripe.

3. (previously presented) The method according to claim 1, further comprising indicating to the storage units storing the donor stripe that the selected element has been donated

before rebuilding the lost element of the recipient stripe on the selected element.

4.   (canceled)

5.   (previously presented)   The method according to claim 1, wherein the storage units comprise hard disk drives.

6.   (previously presented)   The method according to claim 1, wherein the storage units comprise RAM storage devices.

7.   (original)   The method according to claim 1, wherein the donor stripe is further selected based on a minimal performance impact on the array.

8.   (previously presented)   The method according to claim 1, further comprising selecting the recipient information based on an improved performance of the array.

9.   (previously presented)   The method according to claim 1, wherein the correcting code comprises a parity code.

10.   (previously presented)   The method according to claim 1, wherein the correcting code comprises a Winograd code.

11.   (previously presented)   The method according to claim 1, wherein the correcting code comprises a symmetric code.

12.   (previously presented)   The method according to claim 1, wherein the correcting code comprises a Reed-Solomon code.

13.   (previously presented)   The method according to claim 1, wherein the correcting code comprises an EVENODD code.

14.   (previously presented) The method according to claim 1, wherein the correcting code comprises a derivative of an EVENODD code.

15.   (previously presented) The method according to claim 1, wherein the array comprises redundancy based on a product of a plurality of correcting codes.

16.   (previously presented) The method according to claim 15, wherein at least one of the correcting codes comprises a parity code.

17.   (previously presented) The method according to claim 15, wherein at least one of the correcting codes comprises a Winograd code.

18.   (previously presented) The method according to claim 15, wherein at least one of the correcting codes comprises a symmetric code.

19.   (previously presented) The method according to claim 15, wherein at least one of the correcting codes comprises a Reed-Solomon code.

20.   (previously presented) The method according to claim 15, wherein at least one of the correcting codes comprises an EVENODD code.

21.   (previously presented) The method according to claim 15, wherein at least one of the correcting codes comprises a derivative of an EVENODD code.

22.   (previously presented) The method according to claim 1, wherein when an element in the donor stripe fails during rebuilding at least a portion of recipient information from the recipient stripe on the selected element, the method further comprising:

       terminating rebuilding at least a portion of recipient information from the recipient stripe on the selected element;

       selecting a second donor stripe from the plurality of stripes when a difference between a minimum distance of the second donor stripe and a minimum distance of the second

recipient stripe is greater or equal to 2;

selecting a donor element in the second donor stripe; and

rebuilding at least a portion of lost recipient information from the recipient stripe on the selected element in the second donor stripe.

23.   (previously presented) The method according to claim 1, wherein when a spare element becomes available, the method further comprising assigning the spare element to a selected storage unit.

Claims 24-45.   (canceled)

46.   (currently amended) A method for increasing an error tolerance of a storage system comprising a plurality of arrays of storage units, each array comprising m storage units in which m is~~comprises~~ an integer, the method comprising:

storing k stripes across each respective array of m storage units in which k is~~comprises~~ an integer, each stripe comprising n + r elements in which n is the number of data elements in the stripe and r is the number of redundant elements in the stripe, m > n + r, jm = k(n + r), and j is an integer~~having a plurality of elements~~, each stripe forming a correcting code, the correcting code being~~comprising~~ one of an error correcting code having~~comprising~~ a minimum Hamming distance d and an erasure correcting code having~~comprising~~ a minimum Hamming distance d, and each respective element of a stripe being stored on a different storage unit in the array;

selecting an element in a donor stripe when a difference between a minimum distance of the donor stripe and a minimum distance of a recipient stripe is greater or equal to 2 and when an element of the recipient stripe is lost, the donor stripe and the recipient stripe being from the k stripes, the selected element being stored on a storage unit having no elements of the recipient stripe; and

increasing the minimum distance of the recipient stripe by rebuilding the lost element of the recipient stripe on the selected element of the donor stripe so that the recipient stripe can tolerate a loss of another element without loss of data.

47.   (original) The method according to claim 46, wherein the donor stripe is stored on an array that is different from the array of the recipient stripe.

48.   (original) The method according to claim 46, wherein the donor stripe is stored on the same array as the recipient stripe.

49.   (currently amended) The method according to claim 46, wherein the minimum Hamming distance of the recipient stripe is $\underline{d > 2}$ ~~d ≥ 2~~ before selecting the element in the donor stripe.

50.   (previously presented) The method according to claim 46, further comprising indicating to the storage units storing the donor stripe that the selected element has been donated before rebuilding the lost element of the recipient stripe on the selected element.

51.   (canceled)

52.   (previously presented) The method according to claim 46, wherein the storage units comprise hard disk drives.

53.   (previously presented) The method according to claim 46, wherein the storage units comprise RAM storage devices.

54.   (original) The method according to claim 46, wherein the selected element of the donor stripe is further selected based on a minimal performance impact on the donor stripe.

55.   (original) The method according to claim 46, wherein the donor stripe is further selected based on a minimal performance impact on the storage system.

56.   (previously presented) The method according to claim 46, further comprising selecting the recipient information based on an improved performance of the recipient stripe.

57.   (previously presented)   The method according to claim 46, further comprising selecting the recipient information based on an improved performance of the storage system.

58.   (previously presented)   The method according to claim 46, wherein correcting code comprises a parity code.

59.   (previously presented)   The method according to claim 46, wherein correcting code comprises a Winograd code.

60.   (previously presented)   The method according to claim 46, wherein correcting code comprises a symmetric code.

61.   (previously presented)   The method according to claim 46, wherein correcting code comprises a Reed-Solomon code.

62.   (previously presented)   The method according to claim 46, wherein correcting code comprises an EVENODD code.

63.   (previously presented)   The method according to claim 46, wherein correcting code comprises a derivative of an EVENODD code.

64.   (previously presented)   The method according to claim 46, wherein the array comprises redundancy based on a product of a plurality of correcting codes.

65.   (previously presented)   The method according to claim 64, wherein at least one of the correcting codes comprises a parity code.

66.   (previously presented)   The method according to claim 64, wherein at least one of the correcting codes comprises a Winograd code.

67.   (previously presented)   The method according to claim 64, wherein at least one of

the correcting codes comprises a symmetric code.

68.   (previously presented) The method according to claim 64, wherein at least one of the correcting codes comprises a Reed-Solomon code.

69.   (previously presented) The method according to claim 64, wherein at least one of the correcting codes comprises an EVENODD code.

70.   (previously presented) The method according to claim 64, wherein at least one of the correcting codes is a derivative of an EVENODD code.

71.   (previously presented)   The method according to claim 46, wherein when an element in the donor stripe fails during rebuilding at least a portion of recipient information from the recipient stripe on the selected element, the method further comprising:

        terminating rebuilding at least a portion of recipient information from the recipient stripe on the selected element;

        selecting a second donor stripe from the plurality of stripes when a difference between a minimum distance of the second donor stripe and a minimum distance of the second recipient stripe is greater or equal to 2;

        selecting a donor element in the second donor stripe; and

        rebuilding at least a portion of lost recipient information from the recipient stripe on the selected element in the second donor stripe.

72.   (previously presented) The method according to claim 46, wherein when a spare element becomes available, the method further comprising assigning the spare element to a selected storage unit.

73.   (currently amended) A data storage system, comprising;

        an array of m storage units in which m ~~is~~comprises an integer, k stripes being stored across the array of m storage units in which k ~~is~~comprises an integer, each stripe comprising n + r elements in which n is the number of data elements in the stripe and r is the

number of redundant elements in the stripe, m > n + r, jm = k(n + r), and j is an integer~~comprising a plurality of elements~~, each stripe forming a correcting code, the correcting code being~~comprising~~ at least one of an erasure correcting code having~~comprising~~ a minimum Hamming distance d and an error correcting code having~~comprising~~ a minimum Hamming distance d, and each respective element of a stripe being stored on a different storage unit; and

a system array controller selecting an element in a donor stripe when a difference between a minimum distance of the donor stripe and a minimum distance of a recipient stripe is greater or equal to 2 and when an element of the recipient stripe is lost, the donor stripe and the recipient stripe being from the k stripes, the selected element being stored on a storage unit having no elements of the recipient stripe; the system array controller increasing the minimum distance of the recipient stripe by rebuilding the lost element of the recipient stripe on the selected element of the donor stripe so that the recipient stripe can tolerate a loss of another element without loss of data.

74.   (currently amended) The data storage system according to claim 73, wherein the minimum Hamming distance of the recipient stripe is $d > 2$~~d ≥ 2~~ before the system array controller selects the element in the donor stripe.

75.   (original) The data storage system according to claim 73, wherein the system array controller indicates to the storage units storing the donor stripe that the selected element has been donated before the lost element of the recipient stripe is rebuilt on the selected element.

76.   (canceled)

77.   (previously presented) The data storage system according to claim 73, wherein the storage units comprise hard disk drives.

78.   (previously presented) The data storage system according to claim 73, wherein the storage units comprise RAM storage devices.

79.   (original) The data storage system according to claim 73, wherein the system

array controller selects the donor stripe further based on a minimal performance impact on the array.

80.   (original) The data storage system according to claim 73, wherein the system array controller selects the recipient information based on an improved performance of the array.

81.   (previously presented) The data storage system according to claim 73, wherein the correcting code comprises a parity code.

82.   (previously presented) The data storage system according to claim 73, wherein the correcting code comprises a Winograd code.

83.   (previously presented) The data storage system according to claim 73, wherein the correcting code comprises a symmetric code.

84.   (previously presented) The data storage system according to claim 73, wherein the correcting code comprises a Reed-Solomon code.

85.   (previously presented) The data storage system according to claim 73, wherein the correcting code comprises an EVENODD code.

86.   (previously presented) The data storage system according to claim 73, wherein the correcting code comprises a derivative of an EVENODD code.

87.   (previously presented) The data storage system according to claim 73, wherein the array comprises redundancy based on a product of a plurality of correcting codes.

88.   (previously presented) The data storage system according to claim 87, wherein at least one of the correcting codes comprises a parity code.

89.   (previously presented) The data storage system according to claim 87, wherein at

least one of the correcting codes comprises a Winograd code.

90.   (previously presented) The data storage system according to claim 87, wherein at least one of the correcting codes comprises a symmetric code.

91.   (previously presented) The data storage system according to claim 87, wherein at least one of the correcting codes comprises a Reed-Solomon code.

92.   (previously presented) The data storage system according to claim 87, wherein at least one of the correcting codes comprises an EVENODD code.

93.   (previously presented) The data storage system according to claim 87, wherein at least one of the correcting codes comprises a derivative of an EVENODD code.

94.   (original) The data storage system according to claim 73, wherein when an element in the donor stripe fails as the system array controller is rebuilding at least a portion of recipient information from the recipient stripe on the selected element, the system array controller terminates rebuilding the recipient information from the recipient stripe on the selected element, selects a second donor stripe from the plurality of stripes when a difference between a minimum distance of the second donor stripe and a minimum distance of the second recipient stripe is greater or equal to 2, selects a donor element in the second donor stripe, and rebuilds at least a portion of lost recipient information from the recipient stripe on the selected element in the second donor stripe.

95.   (original) The data storage system according to claim 73, wherein when a spare element becomes available, the system array controller assigns the spare element to a selected storage unit.

Claims 96-144.   (canceled)